

## PENTAHelix MODEL IN DEVELOPMENT OF INTEGRATED AND SUSTAINABLE TOURISM IN THE TOURIST VILLAGE OF LIYANGAN, TEMANGGUNG REGENCY

Bagus Setyawan<sup>1</sup>, Tri Yuniningsih<sup>2</sup>, Sunee Hongwiset<sup>3</sup>

<sup>1</sup>University of Diponegoro, Indonedia

<sup>2</sup>University of Diponegoro, Indonesia

<sup>3</sup>University of Burapha, Thailand

<sup>1</sup>[bagusstywn9@gmail.com](mailto:bagusstywn9@gmail.com); <sup>2</sup>[triyuniningsih@lecturer.undip.ac.id](mailto:triyuniningsih@lecturer.undip.ac.id); <sup>3</sup>[suneeh@go.buu.ac.th](mailto:suneeh@go.buu.ac.th)

\*Correspondence Author: [bagusstywn9@gmail.com](mailto:bagusstywn9@gmail.com)

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### ABSTRACT

#### Article History

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*This article aims to analyze the integrated and sustainable development of tourism in Liyangan Tourism Village, analyze the supporting factors in the integrated and sustainable development of tourism in Liyangan Tourism Village, and describe the helix model in the integrated and sustainable development of tourism in Liyangan Tourism Village. The research method used is descriptive qualitative with data collection techniques through observation, interviews, and documents on tourism development in Liyangan Tourism Village. The results of the study indicate that tourism development in Liyangan Tourism Village, Temanggung Regency is integrated and sustainable because most aspects such as geographical proximity, tourist attractions, supporting facilities, institutional elements, directors, social and cultural, and the environment are integrated and sustainable. However, accessibility and the economy are not yet integrated and sustainable.*

*Supporting factors in tourism development in Liyangan Tourism Village include values, communication, trust, and policies. The helix model in integrated and sustainable tourism development in Liyangan Tourism Village is generally optimal through strong collaboration between the government, academics, and the community. However, the business sector and mass media are still not optimal due to limited capacity and inconsistent promotion, this indicates the need for greater involvement to achieve full integration and sustainability.*

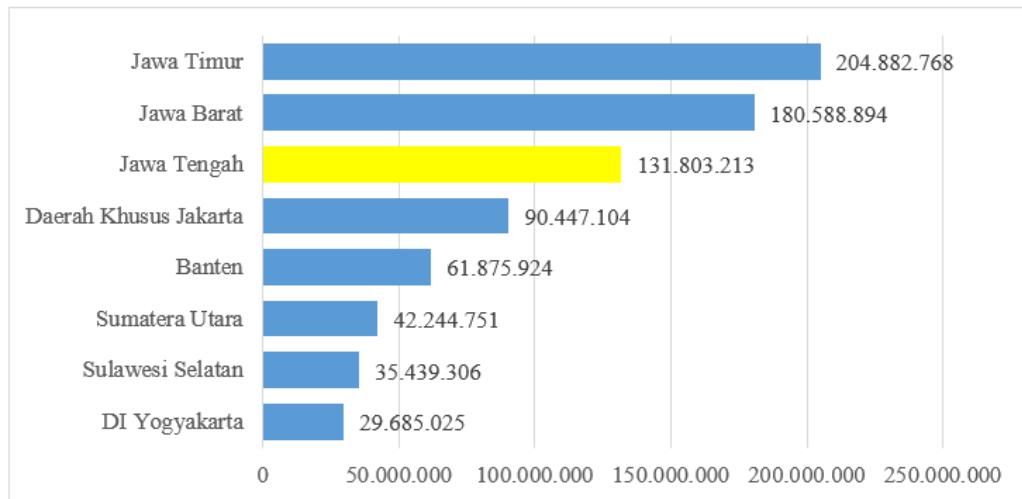
**Keywords:** Tourism Development, Integrated, Sustainable, Pentahelix, Tourism Village

### INTRODUCTION

Tourism is one of the sectors that supports the achievement of the Sustainable Development Goals (SDGs) by reducing poverty through job creation (pillar 1), strengthening the local economy, especially in rural areas (pillar 8), and partnerships to achieve the goals (pillar 17). These efforts to develop and increase tourism are contained in the Peraturan Menteri Pariwisata Dan Ekonomi Kreatif Republik Indonesia Nomor 9 Tahun 2021 Tentang Pedoman Destinasi Pariwisata Berkelaanjutan. The regulation emphasizes sustainable management, economic and social benefits, and environmental and cultural preservation that demonstrate clear alignment between national tourism policies and global SDGs targets.

The Indonesian government continues to strive to improve the tourism sector by utilizing natural and cultural resources in each region (Antara & Mandala dalam Alfiah et al., 2025). Indonesia's tourism sector has shown positive growth, one of the main achievements is the tourism sector's contribution to GDP which reached 4.01% in the first half of 2024, surpassing the previous year's figure of 3.9% (Hendriyani, 2024). In addition, there has been an increase in foreign tourist visits to Indonesia from 2020 to 2024, signaling a sustained recovery and growth in the tourism sector. Based on data from BPS (2025), in December 2024, Indonesia recorded 1,244,372 foreign tourist visits. This is an increase of 13.95% from

the previous month and 8.72% when compared to December 2023. This growth is supported by Indonesia's diverse and attractive tourist destinations, attracting visitors from all over the world.



**Figure 1. Provinces with the Highest Number of Tourist Trips in the Archipelago (2024)**

Sources: BPS Jawa Tengah (2025)

Based on the image above, it is known that East Java province recorded the highest number of tourist visits in the archipelago in 2024 with 204,882,768 visits, followed by West Java with 180,588,894 visits, and Central Java with 131,803,213 visits. Although Central Java is ranked third, the development of tourism in this region, especially through tourist villages, is a strategic opportunity. With 7,809 villages in 29 districts and 6 cities, Central Java has strong cultural potential and local wisdom that can be optimized to increase tourism growth. According to data from Dinas Kepemudaan Olahraga dan Pariwisata Provinsi Jawa Tengah (2024), There are a total of 776 tourist villages in Central Java.

One of the districts in Central Java that has promising natural and cultural tourism potential is Temanggung Regency. The Temanggung Regency Government continues to strive to improve the tourism sector by utilizing natural and cultural resources in each region. This effort to develop and improve the quality of tourism is contained in the Peraturan Daerah Kabupaten Temanggung Nomor 21 Tahun 2020 Tentang Rencana Induk Pembangunan Kepariwisataan Kabupaten Temanggung Tahun 2020-2025. This regulation emphasizes the importance of sustainable tourism development, with a strong focus on community participation in both the management and development of tourist destinations. Temanggung Regency consists of 20 sub-districts, 23 sub-districts, 266 villages, 1,568 hamlets, 1,731 neighborhoods, and 1,505 RWs, as well as 5,909 RTs, with Temanggung District as the center of government. Temanggung Regency borders Kendal Regency, Semarang Regency, Wonosobo Regency, and Magelang City. Temanggung Regency is strategically positioned between two famous tourism centers, namely Wonosobo Regency which is home to the Dieng tourist area, and Magelang Regency which is famous for Borobudur Temple (Wardoyo, 2023).

The tourism sector has an important role in contributing to regional income by increasing local tourism. Strengthening this sector is one of the strategies to increase Regional Original Income while improving the economic conditions of the local community. A well-developed tourism industry can create jobs, reduce unemployment, and improve the overall well-being of the community (Elpisah & Suarlin dalam Gandhi, 2024).

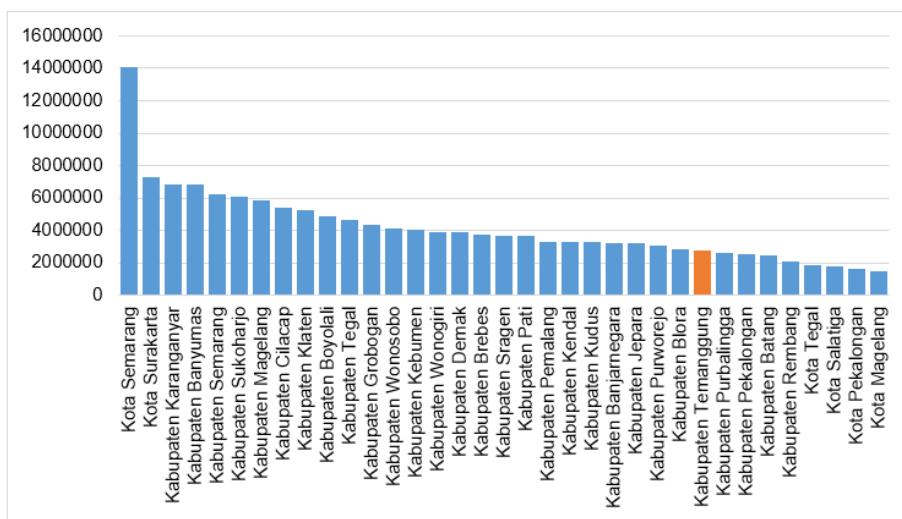
**Table 1. Highest Income in the Tourism Sector in Central Java**

| No | Regency/City | Number of Tourists |             | Revenue (Rp)    |
|----|--------------|--------------------|-------------|-----------------|
|    |              | Nusantara          | Mancanegara |                 |
| 1  | Klaten       | 6.293.175          | 163.882     | 194.179.450.098 |
| 2  | Semarang Kab | 3.531.786          | 2.344       | 52.317.875.166  |
| 3  | Purbalingga  | 2.482.974          | 7           | 33.255.108.890  |

|           |                   |                |           |                      |
|-----------|-------------------|----------------|-----------|----------------------|
| 4         | Banjarnegara      | 1.779.430      | -         | 32.498.952.936       |
| 5         | Surakarta         | 4.019.566      | 10.120    | 31.981.547.599       |
| 6         | Kebumen           | 2.036.275      | -         | 16.290.389.925       |
| 7         | Cilacap           | 1.292.702      | -         | 12.468.466.500       |
| 8         | Boyolali          | 964.785        | 1.348     | 10.362.819.511       |
| 9         | Rembang           | 1.846.108      | 26        | 9.800.012.059        |
| <b>10</b> | <b>Temanggung</b> | <b>582.727</b> | <b>37</b> | <b>8.243.068.579</b> |

Sources: *Disporapar Jawa Tengah (2023)*

Based on table 1, in 2023 the tourism sector in Temanggung Regency will be 10th among the 10 districts and cities with the highest tourism revenue in Central Java Province. The total income from tourism in Temanggung Regency reached IDR 8,243,068,579, much lower than Klaten Regency which was ranked highest with an income of IDR 194,179,450,098. This considerable gap indicates that the tourism sector in Temanggung has not reached its maximum potential in contributing to regional income.



**Figure 2. Number of Trips by Tourists in the Archipelago by Destination Regency/City in Central Java, 2024**

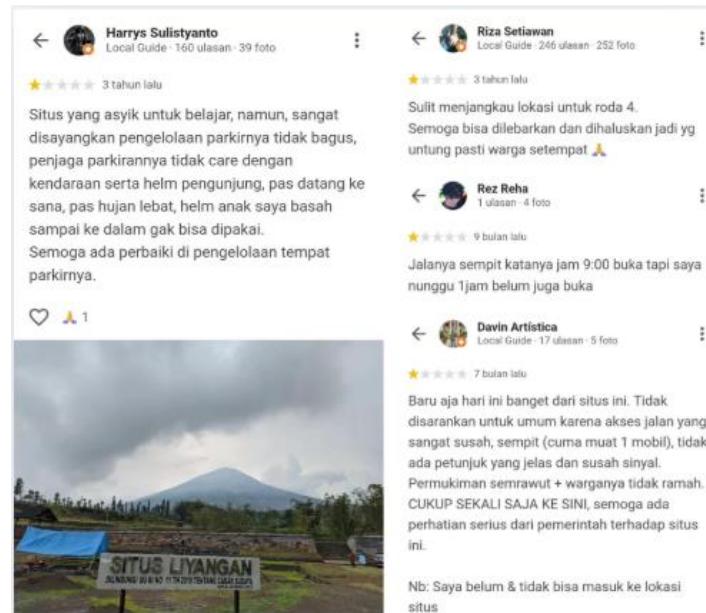
Source: *Badan Pusat Statistik (2025)*

Based on the image above, Semarang City ranks highest with 14,083,672 tourist visits, followed by Surakarta City (7,270,333) and Karanganyar Regency (6,820,322). In contrast, Temanggung Regency, with 2,771,093 tourists, ranks 27th out of 35 regencies/cities in Central Java, much lower than Magelang Regency (5,889,765) and adjacent Wonosobo Regency (4,099,234).

Temanggung Regency is making efforts to utilize its location to develop various village-based and nature-based tourist destinations. Liangan Hamlet, which is located in Purbosari Village, Ngadirejo District, Temanggung Regency, received considerable attention, especially from the Central Java Cultural Heritage Preservation Center, after the discovery of the cultural heritage of the Liyangan Site during sand mining activities. To take advantage of this, they formed the Liyangan Tourism Awareness Group, which aims to develop the hamlet into a tourist village centered around the Liyangan Site. Therefore, the government encourages residents to create activities that increase the attractiveness of the site for tourists (Wardoyo, 2023). In addition to the Liyangan Site, the Tourism Awareness Group (Pokdarwis) of Liyangan Tourism Village has also initiated the development of complementary tourist destinations, such as the Cinta Liyangan Swimming Pool and the Civilization Village.

Tourism development in Liyangan Tourism Village still faces various problems, such as the relatively low number of visitors compared to other destinations in Temanggung Regency. Tourist visits to Liyangan Tourism Village in 2024 amounted to 17,983 tourists. This figure is still far behind other popular tourist attractions in Temanggung Regency, such as Posong Park with 123,833 tourists and

Pikatan Water Park with 103,714 tourists (Disporapar Jateng, 2024).



**Figure 3. Complaints against Liyangan Tourism Village**  
Source: Google Review Desa Wisata Liyangan (2025)

Based on the review, it can be seen that road access to the location is difficult and narrow, as well as inadequate parking facilities and minimal supervision. In addition, tourism development is also still not optimal because it is not a priority tourism area and also in the Liyangan Site area has not been fully excavated, still around 75% - 80% of the total area that has been estimated (Arini et al., 2024).

Community participation in the development of Liyangan Tourism Village is still limited. The implementation of programs such as training has not had a significant impact due to the lack of active community involvement, as well as the lack of optimal involvement of the younger generation who choose to migrate rather than participate in developing local potential, especially in the use of technology (Sujiyanto & Shintasiwi, 2024). In addition, coordination and communication between tourism village managers and village governments have not been well established, which further hinders effective tourism development efforts (Sujiyanto & Shintasiwi, 2024).



#### **Figure 4. Social Media of Liyangan Tourism Village**

Source: *Media Sosial Desa Wisata Liyangan* (2025)

Social media management in Liyangan Tourism Village is still not optimal, because promotional and informative content on platforms such as Instagram and YouTube is limited and rarely updated. Notably, the official Instagram account has been inactive for the past two years.

These problems reflect that in the development of tourism in Liyangan Tourism Village, Temanggung Regency has not been integrated and sustainable. Therefore, this study aims to analyze the integrated and sustainable development of tourism in Liyangan Tourism Village, analyze the supporting factors in the development of tourism in Liyangan Tourism Village that is integrated and sustainable, and describe a *helix model* in the development of tourism in Liyangan Tourism Village that is integrated and sustainable.

### **METHODS**

This study uses a qualitative descriptive method to describe and present data related to the pentahelix model in tourism development in Liyangan Tourism Village, Temanggung Regency which is integrated and sustainable. The research site was carried out in Liyangan Tourism Village and Purbosari Village Hall. Informants were determined using purposive sampling techniques, namely the Pokdarwis of Liyangan Tourism Village, as well as snowball sampling consisting of employees of the Purbosari Village office, BUMDes Kali Langit, tourists, academics, and the mass media. The type of data used is qualitative with primary data sources in the form of in-depth interviews, as well as secondary data sources in the form of documents, regulations, academic journals, news articles, and other relevant sources. Data collection techniques include observation, interviews, and documents. Data analysis and interpretation are carried out through the stages of data reduction, Atlas.ti, data presentation, and conclusion drawn. The researcher uses triangulation of sources, techniques, and time to ensure the validity of the research data.

### **RESULTS & DISCUSSION**

#### **Integrated Tourism Development in Liyangan Tourism Village, Temanggung Regency**

In this study, the researcher used 6 (six) aspects of integrated tourism development according to Alfiah et al. (2025) to analyze the development of integrated tourism in Liyangan Tourism Village, Temanggung Regency.

##### **1. Geographical Proximity**

Ease of access, good connectivity, and travel between tourist destinations does not take long, both with destinations in Liyangan Tourism Village and other destinations around such as Dieng and Umbul Jumprit which form an integrated tourism network, as well as increase tourist visits and encourage tourists to extend their stay by visiting several destinations in one trip. This is in line with research Meliantari dan Apriani dalam Mulyani et al. (2025), that short or close distances contribute to the increase in daily visits and spontaneous tours. The geographical proximity shows that the Liyangan Tourism Village has geographical advantages that can strengthen its attractiveness and contribute to the development of integrated tourism in Temanggung.

##### **2. Tourist Attractions**

Various interesting tourist attractions are presented in Liyangan Tourism Village to attract tourist visits. According to Cooper et al. in Pratiwi (2023) tourist attractions are divided into 3 (three) types, namely cultural attractions, natural attractions, and artificial attractions. This is in accordance with the conditions in the field, that Liyangan Tourism Village has a variety of tourist attractions, including the Liyangan Site, the tradition of Merti Tirta Amerta Bhumi, agriculture, mountain panoramas, Civilization Village, and the Cinta Liyangan Swimming Pool.



**Figure 5. Tourist Attractions in Liyangan Tourism Village**

Sources: Researcher Documentation (2025)

Liyangan Tourism Village has a balanced combination of cultural, natural, and man-made attractions, and is supported by effective management of local potential and good dissemination of information. This combination enhances the attractiveness of destinations, encourages integrated tourism practices, and provides a comprehensive experience for both local and foreign tourists.

### 3. Accessibility

Effective accessibility is key to increasing the attractiveness of a tourist location, creating a memorable or enjoyable experience for tourists, and ultimately supporting local economic growth (Herdiana & Mursalim dalam Marie, 2024). However, accessibility in Liyangan Tourism Village is not optimal in the development of integrated tourism due to limited accessibility to products and information management, such as the absence of an integrated information system, the lack of optimal use of digital marketing, limited trust of MSMEs, and the absence of formal tourism information centers that hinder the effectiveness of promotions and tourist experiences.

### 4. Supporting Facilities

The supporting facilities and signage available at Liyangan Tourism Village are adequate to improve the comfort of visitors, including easily accessible toilets, parking areas, gazebos, and signage. Consistent interaction has also been built, thereby strengthening trust and social cohesion which are important elements in achieving integrated community-based tourism development. In addition, the available facilities will increase tourist visits to Liyangan Tourism Village. This is in line with research by Rahmawati et al. (2024), that facilities have a positive influence on the level of tourist visits, where every increase in the unit of facilities will increase the level of tourist visits.

### 5. Institutional Elements

Previous research conducted by Alfiah et al. (2025), In the development of tourism, it is optimal which is supported by institutional elements consisting of local communities, private parties, and the government. This is in line with the conditions on the ground, that the involvement of institutional elements in Liyangan Tourism Village is optimal due to the participatory and well-coordinated involvement of local institutions, as well as the clarity of the organizational structure. Synergy between local institutions, supported by regular meetings and a clear organizational structure, ensures that tourism facilities are well maintained, decisions are made collectively, and the development process is aligned with the needs of the community and visitors.

### 6. Board of Directors

The Board of Directors plays a crucial role in implementing policies as a foundation for strategic development of tourism management in tourism villages (Alfiah et al., 2025). The Board of Directors in

Liyangan Tourism Village is optimal because it operates under a clear legal framework, a structured work program, and participatory decision-making. This shows an increase in organizational readiness, and practicing participatory governance.

### **Sustainable Tourism Development in Liyangan Tourism Village, Temanggung Regency**

In this study, the researcher uses 3 aspects of sustainable tourism development according to Sinclair et al. dalam Hidayati et al. (2023) to analyze the development of sustainable tourism in Liyangan Tourism Village, Temanggung Regency.

#### **1. Economy**

The economic aspect in Liyangan Tourism Village is still limited and not optimal because it has not had a direct impact on community income, has not absorbed the local workforce significantly, and the decline of MSME actors. Economically, it has not had a direct impact because the decline in production-based MSMEs, such as dodol kemar, syrup, and batik, reflects a shift towards service-oriented activities such as tour guides, which provide limited and unstable income. This condition produces a weak multiplier effect and highlights the need to empower MSMEs, expand market access, and increase tourism promotion to improve economic sustainability. Similar findings by Hidayati et al. (2023), which states that tourism development in Nongkosawit Tourism Village only partially contributes to local economic growth.

#### **2. Social and Cultural**

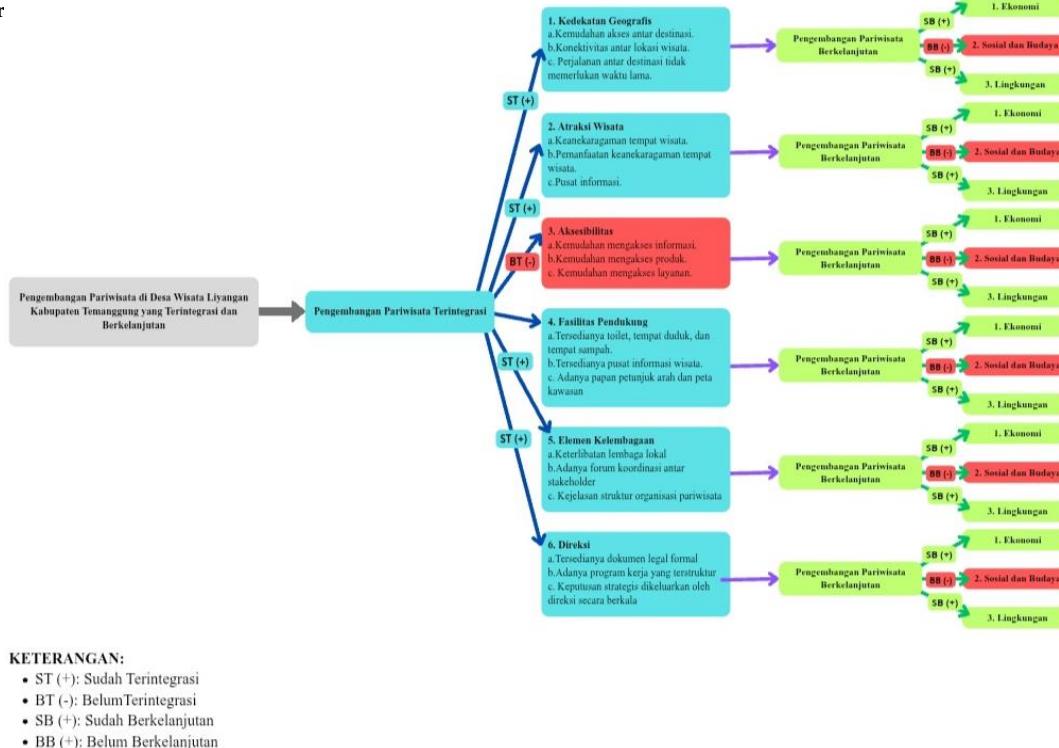
Social and Cultural is a medium or forum in supporting the preservation of natural and cultural resources which are the main assets of tourism (Hidayati et al., 2023). Socio-cultural in tourism development in Liyangan Tourism Village has been optimal due to the preservation of local culture, cultural education programs, and the involvement of *local stakeholders* in the implementation of cultural festivals. This is reflected in the strong cooperation among various *local stakeholders*, including Pokdarwis, BUMDes, village governments, communities, and other supporting institutions in preserving and developing local culture. Traditional ceremonies such as Nyadran continue to be preserved and revived, while the younger generation is actively involved in learning cultural arts. In addition, the existence of cultural programs and partnerships with institutions such as the Center for Archaeology and the Office of Tourism and Culture shows a high commitment to integrating cultural heritage into education and tourism. Although private sector involvement is still limited, the active participation of local communities and institutions shows that the social and cultural in Liyangan Tourism Village remains dynamic and plays a central role in supporting sustainable tourism development.

#### **3. Environment**

The environment is the sustainable use of the environment while minimizing the negative impact of tourism activities (Hidayati et al., 2023). Environmental management in the development of Liyangan Tourism Village has been optimal because there is support between *stakeholders* who complement each other, pay attention to the environment, and an environmentally friendly waste management system. The dynamics of the environment and *stakeholders* in Liyangan Tourism Village show a strong commitment to sustainable tourism development. Synergy between Pokdarwis, village governments, and BUMDes allows the achievement of economic and environmental goals simultaneously. Although there are still limitations, especially related to labor shortages and the competitiveness of environmentally friendly products.

### **Integrated and Sustainable Tourism Development in Liyangan Tourism Village, Temanggung Regency**

Based on the results of research on tourism development in Liyangan Tourism Village, Temanggung Regency using the theory of integrated and sustainable tourism development, it can be seen in the following image.



**Figure 6. Rekapitulasi Pengembangan Pariwisata Terintegrasi dan Berkelanjutan di Desa Wisata Liyangan**

Source: Data Processed by Researchers (2025)

Based on the image above, it can be concluded that tourism development in Liyangan Tourism Village, Temanggung Regency has been integrated and sustainable because most aspects show that the results have been integrated and sustainable. The aspect of integrated tourism development which includes geographical proximity, tourist attractions, supporting facilities, institutional elements, and directors when juxtaposed with aspects of sustainable tourism development such as social and cultural, and the environment shows that it is integrated and sustainable. However, accessibility as one aspect of integrated tourism development has not been integrated. Furthermore, the economic aspect of sustainable tourism also shows that the results are not sustainable.

### Supporting Factors in Tourism Development in Integrated and Sustainable Tourism Village, Liyangan Regency, Temanggung Regency

#### 1. Value

The value developed in stakeholder cooperative relationships can support tourism development (Destiana et al., 2020). Values are a supporting factor in the development of tourism in Liyangan Tourism Village because there are local cultural values, the value of Sapta Pesona which is a reference, the existence of commitment, and active participation among stakeholders. Core values such as mutual cooperation, respect, and good manners have strengthened the active involvement of the community in tourism development. The application of Sapta Pesona which includes elements of safe, orderly, cool, clean, friendly, beautiful, and memories also acts as a moral direction that fosters tourism awareness among local residents. In addition, the commitment of stakeholders in holding quarterly meetings shows integrated and sustainable coordination and collaboration in tourism development. Traditional and cultural activities such as jaran kebraid and warok performances also contribute to uniting youth, strengthening local identity, and enriching tourist attractions.

#### 2. Communication

Communication in tourism activities is very crucial because it can build knowledge, desires, feelings, and individual participation to visit tourist destinations in a region (Destiana et al., 2020). In the development of tourism in Liyangan Tourism Village, communication plays an important role and is a supporting factor. With regular stakeholder meetings every 1-3 months, participatory forums that are

effective in conveying information, and the use of digital media such as WhatsApp significantly improve coordination and alignment of actions between *stakeholders*. These elements are strong supporting factors in encouraging transparency, inclusivity, and collaborative decision-making.

### **3. Trust**

Trust is a supporting factor in the development of tourism in Liyangan Tourism Village with transparency in tourism development, willingness to share resources, and availability in resolving conflicts between *stakeholders*. Trust between *stakeholders* is fundamental for effective collaboration in Liyangan Tourism Village by encouraging transparency, accountability, and shared responsibility. This condition is different from research Destiana et al. (2020), Instead, trust is an inhibiting factor due to a lack of trust in stakeholder cooperation .

### **4. Policy**

Policies are a supporting factor in tourism development in Liyangan Tourism Village. Policies in Liyangan Tourism Village provide policy support, the availability of incentives, and program synchronization to cooperation between *stakeholders* significantly by providing a structured platform, financial support, and regular communication forums. This mechanism ensures that tourism development is synchronized, community-driven, and aligned with local priorities emphasizing the importance of consensus and joint action in the development of integrated and sustainable tourism. This condition is different from research Destiana et al. (2020), In fact, policies are an inhibiting factor because there is no policy on halal tourism.

## **Helix Model in Integrated and Sustainable Tourism Development in Liyangan Tourism Village, Temanggung Regency**

In the Integrated and Sustainable Development of Tourism in Liyangan Tourism Village, Temanggung Regency, the researcher analyzed using the *Pentahelix* model with the synergy of ABCGM by Vani et al., (2020). The following is an explanation of *pentahelix* with ABCGM synergy.

### **1. Academy**

Academics in tourism development in Liyangan Tourism Village have been optimal. Academics within the framework of the *Pentahelix* model play a transformative and integrative role in the development of integrated and sustainable tourism in Liyangan Tourism Village. The involvement of academics such as the University of Indonesia and ISI Yogyakarta in Liyangan Tourism Village through research and workshops or training related to tourism promotion. Furthermore, Diponegoro University and ISI Surakarta through the KKN program conduct training and assistance to MSMEs, as well as community service. This shows the application of theoretical knowledge into practical solutions, such as improving MSME products and digital accessibility.

### **2. Business**

Business in tourism development in Liyangan Tourism Village has not been optimal as a driver within the framework of the *Pentahelix* model. Businesses involved in tourism development are limited to small businesses (MSMEs of Purbosari Village) whose contribution is still limited by limited resources, technological obstacles, and weak market demand. From the perspective of integration and sustainability, these issues show that the current role of the business sector in Liyangan Tourism Village has not fully become an enabler (creating added value in the economy).

### **3. Community**

The community in tourism development in Liyangan Tourism Village has been optimal. The community in Liyangan Tourism Village has carried out its function as an accelerator (intermediary between *stakeholders* to facilitate the achievement of common goals) in the collaboration of the *Pentahelix* model. The presence of active institutions such as the Tourism Awareness Group (Pokdarwis) of Liyangan Tourism Village, Kali Langit Village-Owned Enterprises (BUMDes), Purbosari Village Arts Group, and Karang Taruna Liangan shows that the community has gone from being just passive

beneficiaries to active partners who are committed to accelerating and contributing to tourism development. Despite the existing constraints, especially financial and awareness of their tourism participation, openness to feedback, and commitment to maintaining cultural and environmental sustainability signal the potential for integrated and sustainable forms of community-based tourism governance.

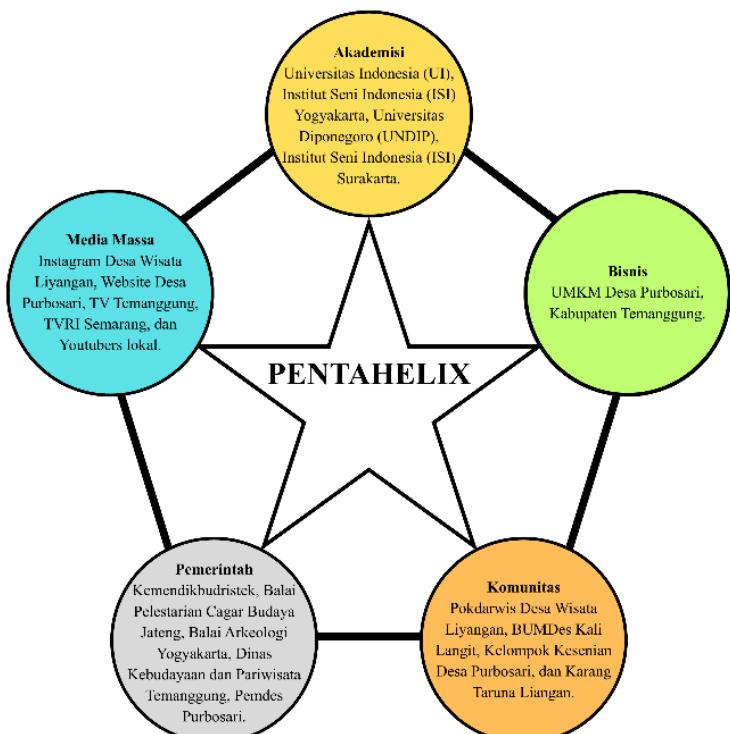
#### 4. Government

The government in developing tourism in Liyangan Tourism Village has been optimal. The government in the development of tourism in Liyangan Tourism Village has acted as a regulator who has the authority to make regulations and is responsible, as well as an accelerator within the framework of the *Pentahelix model*. At the central level, governments such as the Ministry of Culture and Culture, the Central Java Cultural Heritage Preservation Center, the Yogyakarta Archaeological Center, and the Temanggung Culture and Tourism Office function as regulators such as formulating policies, establishing legal frameworks, and ensuring site preservation. Meanwhile, at the local or village level, the Purbosari Village Government plays the role of a controller and facilitator, supervising implementation, supporting infrastructure, and coordinating with *other stakeholders* to improve sustainability and community involvement. This cross-level synergy shows effective governance that harmonizes cultural preservation with tourism development, thereby strengthening the integrated and sustainable character of Liyangan Tourism Village.

#### 5. Massa Media

Mass media in tourism development in Liyangan Tourism Village has not been optimal. Although several forms of media involvement have existed, such as the Liyangan Tourism Village website, Purbosari Village website, local TV coverage (TV Temanggung and TVRI Semarang), and local Youtubers, it has not been said to be an expender because it has not been able to support publications in promotion consistently and make *the brand image* of Liyangan Tourism Village widely known. Management and promotion through the media seem to have not been fully utilized because the official social media accounts of the tourism village have not been *updated* for approximately two years, and other media tend to only promote the Liyangan Tourism Village when there are certain events.

Based on the description above, the *helix* model in tourism development in Liyangan Tourism Village, Temanggung Regency which is integrated and sustainable is included in the *Pentahelix model* because it involves 5 *stakeholders*. Therefore, an Integrated and Sustainable *Pentahelix* Model in Tourism Development in Liyangan Tourism Village, Temanggung Regency can be described as follows.



### Figure 7. The Pentahelix Model in Tourism Development in Liyangan Tourism Village

Source: Data processed by Researcher (2025)

## CONCLUSION

Based on the results of research and analysis that has been carried out on the *Pentahelix* model in the development of tourism in Liyangan Tourism Village, Temanggung Regency which is integrated and sustainable, it can be concluded as follows:

1. Tourism development in Liyangan Tourism Village, Temanggung Regency has been integrated and sustainable because most aspects, such as geographical proximity, tourist attractions, supporting facilities, institutional elements, directors, social and cultural aspects, and the environment, have been optimal. However, accessibility and economic aspects are not optimal.
2. Supporting factors in tourism development in Liyangan Tourism Village, Temanggung Regency which are integrated and sustainable, include the value of local cultural values, the value of Sapta Pesona as a reference, the existence of commitment, and active participation among *stakeholders*. Communication with regular *stakeholder* meetings, participatory forums that are effective in conveying information, and the use of digital media. Furthermore, the trust factor with transparency, willingness to share resources, and availability in resolving conflicts between *stakeholders*. In addition, policies by providing policy support, the availability of incentives, and synchronization of programs for cooperation between *stakeholders*.
3. The helix *model* in the development of integrated and sustainable tourism in Liyangan Tourism Village is included in the *pentahelix model* because it involves 5 elements, namely academics, government, community, business, and mass media. In general, the *pentahelix model* in the development of integrated and sustainable tourism in Liyangan Tourism Village has been optimized through strong collaboration between the government, academics, and the community. However, the business and mass media sectors are still not optimal due to limited capacity and inconsistent promotion, demonstrating the need for greater engagement to achieve full integration.

## RECOMMENDATIONS for DEVELOPMENT

The recommendations given by the Researcher to *helix* stakeholders are as follows:

1. The aspect of geographical proximity has been integrated, but the economic aspect is not sustainable. This can be overcome by creating the Temanggung Integrated Tour Package that connects destinations so that tourists can visit various places and spend a lot of money.
2. The aspect of tourist attractions has been integrated, but the economic aspect is not sustainable. Building a joint souvenir center and increasing the capacity of MSMEs.
3. Accessibility and economic aspects are still not integrated and sustainable. Pokdarwis and BUMDes are advised to create a website for Liyangan Tourism Village which is supported by integrated digital payments, supported by digital marketing and collaboration.
4. Aspects of supporting facilities have been integrated, but the economy is not yet sustainable. The use of existing facilities through local product centers, digital platforms, and regular tourism events can increase tourist spending.
5. Aspects of institutional elements have been integrated, but the economy is not sustainable. Strengthening collaboration between Pokdarwis, village governments, and other stakeholders can initiate institutional strengthening programs and strengthen collaboration to improve community skills.
6. The aspect of the board of directors has been integrated, but the economic aspect is not sustainable. CBT (Computer-Based Training)-based empowerment program with mandatory skills training and workforce requirements.
7. The accessibility aspect has not been integrated, but the social and cultural aspects are sustainable. The creation of a digital information platform that aligns with cultural programs and product sales during festivals can expand access and strengthen cultural engagement.
8. The accessibility aspect has not been integrated, but the environment is sustainable. Environmental collaboration can support easily accessible infrastructure through information points, public transportation, and shaded pedestrian paths.

## BIBLIOGRAPHY

Alfiah, R., Febrian, C. M., Listyawati, R. N., & Koesoemawati, R. D. J. (2025). PENTAHelix APPROACH FOR ACHIEVING INTEGRATED AND SUSTAINABLE TOURISM DEVELOPMENT. *International Journal of Educational Review, Law And Social Sciences*, 5(1), 152–160. [https://doi.org/https://doi.org/10.54443/ijerlas.v5i1.2357](https://doi.org/10.54443/ijerlas.v5i1.2357)

Arini, K. H., Muryani, C., & Utomowati, R. (2024). Analisis Potensi Wisata Dan Partisipasi Masyarakat Untuk Arahan Pengembangan Desa Wisata Purbosari Kecamatan Ngadirejo Kabupaten Temanggung Tahun 2023. *Indonesian Journal of Environment and Disaster*, 3(1), 1–13. <https://doi.org/10.20961/ijed.v3i1.1060>

Badan Pusat Statistik. (2025a). Jumlah Perjalanan Wisatawan Nusantara Menurut Provinsi Asal (Perjalanan). *Bps.Go.Id.* <https://doi.org/https://www.bps.go.id/statistics-table/2/MTE4OSMy/jumlah-perjalanan-wisatawan-nusantara-menurut-provinsi-asal.html>

Badan Pusat Statistik. (2025b). Jumlah Wisatawan Mancanegara Per Bulan Menurut Kebangsaan. *Bps.Go.Id.* <https://www.bps.go.id/indicator/16/1470/1/kunjungan-wisatawan-mancanegara-per-bulan-menurut-kebangsaan.html>

Badan Pusat Statistik Jawa Tengah. (2025). Jumlah Perjalanan Wisatawan Nusantara Menurut Kabupaten/Kota Tujuan di Jawa Tengah, 2024. *Jateng.Bps.Go.Id.* <https://jateng.bps.go.id/id/statistics-table/2/MjMxMCMMy/jumlah-perjalanan-wisatawan-nusantara-menurut-kabupaten-kota-tujuan-di-jawa-tengah.html>

Destiana, R., Kismartini, K., & Yuningsih, T. (2020). Analisis Peran Stakeholders Dalam Pengembangan Destinasi Pariwisata Halal Di Pulau Penyengat Provinsi Kepulauan Riau. *Jurnal Ilmu Administrasi Negara ASIAN (Asosiasi Ilmuwan Administrasi Negara)*, 8(2), 132–153. <https://doi.org/10.47828/jianaasian.v8i2.18>

Dinas Kepemudaan Olahraga dan Pariwisata Provinsi Jawa Tengah. (2023). *Buku Statistik Pariwisata Jawa Tengah Dalam Angka Tahun 2023*. <https://mail.disporapar.jatengprov.go.id/content/files/BUKU STATISTIK PARIWISATA JAWA TENGAH 2023-1724293561.pdf>

Dinas Kepemudaan Olahraga dan Pariwisata Provinsi Jawa Tengah. (2024a). *Buku Pariwisata Jawa Tengah dalam Angka 2024*.

Dinas Kepemudaan Olahraga dan Pariwisata Provinsi Jawa Tengah. (2024b). *Roadmap Pengembangan Desa Wisata di Jawa Tengah*. <https://disporapar.jatengprov.go.id/content/files/ROADMAP PENGEMBANGAN DESA WISATA JAWA TENGAH-1729047117.pdf>

Gandhi, A. S. (2024). Pengaruh Sektor Pariwisata Dan Pendapatan Asli Daerah Terhadap Pertumbuhan Ekonomi Di Provinsi Bali Tahun 2016-2021. *Management Studies and Entrepreneurship Journal*, 5(2), 8534–8545. <https://doi.org/https://doi.org/10.37385/msej.v5i2.5675>

Google Review Situs Liyangan. (2025). <https://maps.app.goo.gl/LkKTY6VxtQZxKCwVA>

Hendriyani, I. G. A. D. (2024). Siaran Pers: Menpar Optimistik Capaian Kinerja Pariwisata 2024 Lampau Realisasi Tahun Sebelumnya. *Kemenparekraf.Go.Id.* <https://kemenparekraf.go.id/berita/siaran-pers-menpar-optimistik-capaian-kinerja-pariwisata-2024-lampaui-realisasi-tahun-sebelumnya>

Hidayati, R., Yuniningsih, T., & S, E. L. (2023). Helix Model in Tourism Development Based on Sustainable Tourism Development in the Nongkosawit Tourism Village, Semarang City. *Perspektif*, 12(4), 1215–1227. <https://doi.org/10.31289/perspektif.v12i4.9884>

Marie, A. L. (2024). Pengaruh Daya Tarik dan Aksesibilitas terhadap Keputusan Berkunjung ke Telaga Biru Cisoka , Kabupaten Tangerang , Provinsi Banten. *Jurnal Ilmiah Pariwisata*, 29(3), 299–311. <https://doi.org/https://doi.org/10.30647/jip.v29i3.1835>

Mulyani, S., Alamanda, D. T., & Adiatma, D. (2025). PENGARUH DAYA TARIK WISATA , LOKASI DAN ELECTRONIC WORD OF MOUTH ( E-WOM ) TERHADAP MINAT BERKUNJUNG WISATAWAN KE ANTAPURA DE D ' JATI. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, Dan Akuntansi)*, 9(2), 3186–3206.

Ngadirejo, D. P. K. (n.d.). *Desa Purbosari Kec Ngadirejo*. YouTube. <https://doi.org/https://www.youtube.com/@desapurbosarikecngadirejo4019>

Peraturan Daerah Kabupaten Temanggung Nomor 21 Tahun 2020 Tentang Rencana Induk Pembangunan Kepariwisataan Kabupaten Temanggung Tahun 2020-2025 (2020).

<https://peraturan.bpk.go.id/Home/Details/170902/perda-kab-temanggung-no-21-tahun-2020>  
Peraturan Menteri Pariwisata Dan Ekonomi Kreatif Republik Indonesia Nomor 9 Tahun 2021 Tentang Pedoman Destinasi Pariwisata Berkelanjutan (2021).  
<https://peraturan.bpk.go.id/Details/203906/permepar-no-9-tahun-2021>

Pratiwi, Y. (2023). Identifikasi 4A (Attraction, Amenity, Accessibility dan Ancillary) dalam Pengembangan Pariwisata Berkelanjutan di Pantai Tanjung Pendam, Kabupaten Belitung. *Journal of Contemporary Public Administration (JCPA)*, 3(2), 59–67.  
<https://doi.org/10.22225/jcpa.3.2.2023.59-67>

Rahmawati, P., Lestari, H. D., & Wahyuni, S. (2024). Pengaruh Kualitas Layanan dan Fasilitas Terhadap Tingkat Kunjungan Wisatawan di Taman Rekreasi Kalianget Wonosobo. *KONTAN*, 3(4), 1–6.  
<https://doi.org/10.59818/kontan.v3i4.1077>

Sujiyanto, R., & Shintasiwi, F. A. (2024). Perubahan Sosial dan Ekonomi Masyarakat Dusun Liyangan Desa Purbosari Kecamatan Ngadirejo Kabupaten Temanggung Setelah Penemuan Candi liyangan. *Journal of Indonesian Social Studies Education*, 2(2), 52–58.

Vani, R. V., Priscilia, S. O., & Adianto, A. (2020). Model Pentahelix Dalam Mengembangkan Potensi Wisata di Kota Pekanbaru. *Publikauma : Jurnal Administrasi Publik Universitas Medan Area*, 8(1), 63–70. <https://doi.org/10.31289/publika.v8i1.3361>

Wardoyo, R. A. (2023). STUDI KASUS: PENGEMBANGAN DESA WISATA PADA SITUS LIYANGAN DI DESA WISATA LIANGAN. *JURNAL SYNTAX IDEA*, 5(3), 343–353.  
<https://jurnal.syntax-idea.co.id/index.php/syntax-idea/article/view/2163/1409>